



<b><i>Index of Claims</i></b>  	<b>Application/Control No.</b>  09584796	<b>Applicant(s)/Patent Under Reexamination</b>  LINDQVIST ET AL.
	<b>Examiner</b>  ALEXANDER JAMAL	<b>Art Unit</b>  2614

✓	<b>Rejected</b>	-	<b>Cancelled</b>	N	<b>Non-Elected</b>	A	<b>Appeal</b>
=	<b>Allowed</b>	÷	<b>Restricted</b>	I	<b>Interference</b>	O	<b>Objected</b>


<input type="checkbox"/> <b>Claims renumbered in the same order as presented by applicant</b>			<input type="checkbox"/> <b>CPA</b>			<input type="checkbox"/> <b>T.D.</b>			<input type="checkbox"/> <b>R.1.47</b>		
CLAIM		DATE									
Final	Original	07/13/2009									
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	2	-									
2	3	=									
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32	35	=									
33	36	=									

<b><i>Index of Claims</i></b>  	<b>Application/Control No.</b>  09584796	<b>Applicant(s)/Patent Under Reexamination</b>  LINDQVIST ET AL.
	<b>Examiner</b>  ALEXANDER JAMAL	<b>Art Unit</b>  2614

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=	<b>Allowed</b>	÷	<b>Restricted</b>	I	<b>Interference</b>	O	<b>Objected</b>

<input type="checkbox"/> <b>Claims renumbered in the same order as presented by applicant</b> <input type="checkbox"/> <b>CPA</b> <input type="checkbox"/> <b>T.D.</b> <input type="checkbox"/> <b>R.1.47</b>										
CLAIM		DATE								
Final	Original	07/13/2009								
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<b>Search Notes</b>  	<b>Application/Control No.</b>  09584796	<b>Applicant(s)/Patent Under Reexamination</b>  LINDQVIST ET AL.
	<b>Examiner</b>  ALEXANDER JAMAL	<b>Art Unit</b>  2614

SEARCHED			
Class	Subclass	Date	Examiner
379	406.08,406.12	7/13/09	/AJ/

SEARCH NOTES		
Search Notes	Date	Examiner
east txt see sr	7/13/09	/AJ/
inventor search	7/13/09	/AJ/

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
379	406.08,406.12	7/13/09	/AJ/

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## EAST Search History

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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**7/ 13/ 09 6:43:44 PM**

**C:\ Documents and Settings\ ajamal\ My Documents\ EAST\ Workspaces\ 09584796.wsp**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

jc586 U.S. PTO  
09/584796  
06/01/00

In re Patent Application of

Fredrik LINDQVIST et al.

Atty. Ref.: 1410-679

Serial No.

Group:

#4/IDS

Filed: June 1, 2000

Examiner:

2-7-01

A.T

For: A FREQUENCY DOMAIN ECHO CANCELLER

June 1, 2000

Assistant Commissioner for Patents  
Washington, DC 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

As suggested by 37 C.F.R. 1.97, the undersigned attorney brings to the attention of the Patent and Trademark Office the references listed on the attached Form PTO-1449, a copy of each of which is enclosed.

The Examiner is requested to initial the attached form PTO-1449 and to return a copy of the initialed document to the undersigned as an indication that the attached references have been considered and made of record.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By:



John R. Lastova

Reg. No. 33,149

JRL:mm

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Arlington, VA 22201-4714

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INFORMATION DISCLOSURE  
CITATION

ATTY. DOCKET NO.

SERIAL NO.

1410-679

APPLICANT

Fredrik LINDOVIST et al.

(Use several sheets if necessary)

FILING DATE

GROUP

June 1, 2000

## U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

[illegible]

OTHER DOCUMENTS (including Author, Title, Date, Pertinent pages, etc.)

		IEEE Transactions on Communications, Vol. 48, No. 2, February 2000, Hanna Bogucka et al., "Frequency-Domain Echo Cancellation in Digital Multicarrier Modulation Systems," pp. 333-342
		ANN. TELECOMMUN., 52, n° 1-2, 1997, Vincent Démoulin et al., "Vector equalization: an alternative approach for OFDM systems," pp. 4-11

\*Examiner

~~/Alexander Jamal/~~

Date Considered

09/09/2009

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application.

Form PTO-FB-A820 (Also PTO-1449)

431416

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.J./

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Fredrik LINDQVIST et al.

Serial No. 09/584,796

Filed: June 1, 2000

For: A FREQUENCY DOMAIN ECHO CANCELLER



Atty. Ref.: 1410-679

Group: 2731

Examiner:

#5/IDS  
2-7-01  
A.T.

August 24, 2000

Assistant Commissioner for Patents  
Washington, DC 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

As suggested by 37 C.F.R. 1.97, the undersigned attorney brings to the attention of the Patent and Trademark Office the references listed on the attached form PTO-1449, a copy of each of which is enclosed.

The Examiner is requested to initial the attached form PTO-1449 and to return a copy of the initialed document to the undersigned as an indication that the attached references have been considered and made of record.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By:

John R. Lastova  
Reg. No. 33,149

JRL:mm  
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Arlington, VA 22201-4714  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100

INFORMATION DISCLOSURE  
CITATION

ATTY. DOCKET NO.

SERIAL NO.

1410-679

09/584.796

**APPLICANT**

Fredrik LINDQVIST et al.

(Use several sheets if necessary)

FILING DATE

**GROUP**

June 1, 2000

2731

## U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

[illegible]

OTHER DOCUMENTS (including Author, Title, Date, Pertinent pages, etc.)

	<i>Proc. Global Telecommunications Conference</i> , New York, NY, USA, 1996, pp. 1405-1410, "John M. Cioffi and G. David Fornery, Jr., "Canonical Packet Transmission on the ISI Channel with Gaussian Noise"
	<i>Proc. Fourteenth Symposium on Information Theory in the Benelux</i> , Enschede, Netherlands, 1993, pp. 236, 243, A.G.C. Koppelaar, "Matrix Equalization for OFDM Systems"
	J.A.C. Bingham, "ADSL, VDSL and Multicarrier Modulation," pp. 247-248, Chapter 11.3 "Echo Cancellation," John Wiley & Sons, January 2000
	<i>Electronics Letters</i> , 10 <sup>th</sup> October 1996, Vol. 32, No. 21, pp. 1963-1964, P. Van Eetvelt, G. Wade and M. Tomlinson, "Peak to average power reduction for OFDM schemes by selective scrambling"
	<i>IEEE Transactions on Communications</i> , Vol. 44, No. 7, July 1996, pp. 817-825, Minnie Ho, John M. Cioffi, and John A.C. Bingham, "Discrete Multitone Echo Cancellation"
	<i>Comm Theory Mini Conference, Globecom 98</i> , Sydney, Australia, November 8-12, 1998, pp. 219-224, José Tellado and John M. Cioffi, "Peak Power Reduction for Multicarrier Transmission"
	<i>Proceedings of Radioventenskap och kommunikation 99 (RVK 99)</i> , Karlskrona, Sweden, June 1999, pp. 1-5, Per Ola Börjesson, Hans G. Feichtinger, Niklas Grip, Mikael Isaksson, Norbert Kaiblinger, Per Ödling, and Lars-Erik Persson, "DMT PAR-reduction by weighted cancellation waveforms"

\*Examiner

Alexander Jama

Date Considered

09/09/2009

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application.

Form PTO-FB-A820 (Also PTO-1449)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#7  
Bd.  
10-2-02

In re Patent Application of

LINDQVIST et al.

Serial No. 09/584,796

Filed: June 1, 2000

For: A FREQUENCY DOMAIN ECHO CANCELLER



Atty. Ref.: 1410-679

Group: 2731

Examiner:

September 16, 2002

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

**RECEIVED**

**SEP 19 2002**

INFORMATION DISCLOSURE STATEMENT Technology Center 2600

As suggested by 37 C.F.R. 1.97, the undersigned attorney brings to the attention of the Patent and Trademark Office the International Search Report and cited references listed on the attached form PTO-1449, a copy of each of which is enclosed.

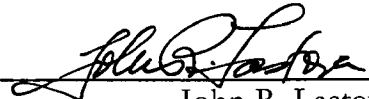
The Examiner is requested to initial the attached form PTO-1449 and to return a copy of the initialed document to the undersigned as an indication that the attached references have been considered and made of record.

The undersigned attorney of record hereby certifies under 37 C.F.R. §1.97(e) that each item of information referenced herein and attached hereto was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. Cited references USP 5,524,149; US 5,787,113, and WO 99/41848 were previously filed in this case on November 29, 2000, and therefore, copies are not provided.

LINDQVIST et al.  
Serial No. 09/584,796

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

LINDQVIST et al.

Serial No. 09/584,796

Filed: June 1, 2000

For: A FREQUENCY DOMAIN ECHO CANCELLER



Atty. Ref.: 1410-679

Group: 2731

Examiner:

November 29, 2000

Assistant Commissioner for Patents  
Washington, DC 20231

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INFORMATION DISCLOSURE STATEMENT

Sir:

As suggested by 37 C.F.R. 1.97, the undersigned attorney brings to the attention of the Patent and Trademark Office the references listed on the attached form PTO-1449, a copy of each of which is enclosed.

The Examiner is requested to initial the attached form PTO-1449 and to return a copy of the initialed document to the undersigned as an indication that the attached references have been considered and made of record.

Respectfully submitted,

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